SUBSTITUTE SPECIFICATION

Title: FABRICATION OF COOLING AND HEAT TRANSFER SYSTEMS BY ELECTROFORMING

The present invention relates to for diverse forms of industry, and more particularly to the fabrication of cooling and heat transfer systems by electroforming.

There are numerous technologies involving the use of (typically metal) components that, in use, are subjected to high temperatures or find their temperatures raised, e. g. through contact with fluids that are at high temperature and/or pressure. Such components include those that are used in energy generation and heat transfer systems, and in propulsion systems. Particular examples would be reactor vessels, combustion chambers and rocket engines. There is typically a need to provide cooling of such components or to provide components in which heat is transferred from one fluid to another.

A problem with known systems is that the efficiency of such systems is not as high as it could be as the cooling or rate of heat transfer is less than desired.

A further drawback is that the conventional methods for fabrication of the components and systems are not suited to fabrication of diverse forms of componentry, with integrated cooling/heat transfer elements, and in the necessary materials, or they result in a significantly increased cost of the component for a compromise design.

There is a need for fabrication techniques that overcome the aforementioned problems and provide improved fabrication processes and components. There is furthermore a need for techniques for the fabrication of such components at reduced cost.

The present invention provides a process for the fabrication of a metallic component, comprising: providing an object having surface; performing a first electroforming operation,